CITY OF HAYWARD

AGENDA REPORT

AGENDA DATE 02/22/05

AGENDA ITEM 3

WORK SESSION ITEM

TO: Mayor and City Council

FROM: Acting Finance Director

SUBJECT: Solar Power Electrical Generating System

RECOMMENDATION:

It is recommended that the City Council adopt the attached resolution which authorizes the installation of a solar power electrical generating system atop the City's Barnes Court warehouse, provides for lease financing to fund the cost of the project and authorizes the City Manager to execute all related documents.

DISCUSSION:

Over the past few months, staff has reviewed proposals by three companies to install a solar power electrical generating system at the City's Barnes Court Warehouse (located in this building are Animal Control, Police Evidence, Landscape Maintenance Division and Facilities Maintenance Division). This site was selected as it has sufficient roof space and an acceptable location for sun exposure. Other locations were considered, but for varying reasons were not suitable.

Based on cost, design and project economics, staff has selected a system manufactured and installed by the PowerLight Corporation to recommend to Council. Additionally, PowerLight Corporation is an approved Federal General Services Administration vendor allowing the City to piggyback on the federal competitive procurement process. Based on staff's analysis the project would generate sufficient power and other savings to pay for the cost of the installation over a 25 year estimated life and provide a modest net savings to the City.

The project consists of installing approximately 1,900 solar panels on the roof of the Barnes Court Warehouse. The system capacity is 276 kilowatts (kWp) and as an example of generating power the system will generate equivalent energy to power 275 homes during daytime hours. City staff has reviewed the project in terms of the impact of placing the panels on the Barnes Court Warehouse and is satisfied that installing the system would not be detrimental to the existing structure, or the use of the structure.

The system uses a proprietary panel which lies flat on the existing roof with few penetrations of the roof membrane. Other systems reviewed require a rack mounted array of panels with several penetrations of the roof to secure the structure. The PowerLight product requires minimal maintenance while the other systems present a greater potential for additional maintenance over the life of the system. The PowerLight product or system has received the Underwriter's Laboratories (UL) approval as a building construction assembly, which provides a level of

assurance as to its design and construction. Staff has also checked the references submitted by the company and those have been satisfactory in terms of the quality of the product, its ability to perform as represented and the experience of the purchaser in meeting the projected savings targets. These factors have been key determinants in selecting this project and this provider to recommend to Council.

Attached for Council's review are pictures of installations done by PowerLight Corporation for the City of Richmond Library and the City of Vallejo City Hall and Public Library. The installations are a good example of what the panels would look like if installed on the Barnes Court Warehouse. As can be seen from the pictures, the installations are flat and do not alter the architecture of the building as seen from street level. Given the use of the Barnes Court Warehouse and its location the architectural aspects of the installation are of even less impact. Also included is a picture of the Barnes Court Warehouse roof area. This image provides an overall idea as to the amount of space that is available, the location of the structure and its relationship to other City facilities that can be seen at the top of the picture.

The total cost of the system including installation is $1.8 million. One-half of the cost or $900,000 will be paid by PG&E under the Self Generation Incentive Program authorized by the California Public Utilities Commission (CPUC). Using this program will result in a net installation cost to the City of $900,000. Staff is recommending that the acquisition cost of the system be financed in order to avoid an immediate cash outlay by the City. Staff's analysis shows that there will be sufficient savings to pay for both the acquisition and financing costs of the project. Cost savings will be generated in several areas, including reduced electricity costs, reduced heating and air-conditioning costs, reduced roof maintenance costs and the sale of "Green Tags".

Green Tags are environmental credits that attach to a project of this type. More specifically, Renewable Energy Certificates (REC's) are established as a result of generating clean electricity. The number of REC's attributable to a project is based on the amount of clean electricity produced. RECs are a tradable commodity that can be sold for cash on the open market. The market consists of businesses, institutions and individuals committed to sustainable business practices that purchase REC's to help ensure the production of clean electricity. Some purchasers are "voluntary" in that they buy REC's as a matter of good environmental policy. For example a company might be committed to renewable energy sources but not have the ability to build their own project. Some purchasers, such as commercial power generators, that cannot meet clean electricity production levels purchase REC's in order to meet compliance standards. The sale of Green Tags associated with this project is estimated at $93,000 and is one of the revenue sources used to arrive at a positive cash flow for the project.

With respect to financing, staff is recommending that the project be lease financed over a period of 25 years at an interest rate of 6%. The annual lease payment, under these terms is estimated at $70,400. In each year the savings are sufficient to pay the lease payment and generate a positive cash flow. The average net annual savings (net savings consists of avoided power purchases, reduced HVAC costs and sale of Green Tags less the lease payment) is about $19,250 which results in a total net project savings of some $481,000. The net present value of the total savings discounted at 6% per year is approximately $156,000. At the end of the lease period title to the project will pass to the City.

In addition to the cost savings indicated above, the project will provide significant environmental benefits. Based on U.S. EPA estimates considering the present mix of electrical sources, the 276kWp project, over its 30-year design life will remove over 2,000 tons of CO2. This is equal to the amount of CO2 absorbed by 21 acres of tress. The system will also save the equivalent of over 18,000 barrels of oil that would have to be provided domestically or imported.

Based on the assumptions described above installation of the PV solar system will generate sufficient savings to pay for the cost of the system, lease financing costs over 25 years and provide a net present value savings to the City of approximately $156,000. In addition, significant environmental benefits will be generated by the project. For these reasons staff is recommending that the City Manager be authorized to execute such documents as are necessary to proceed with the project.

Prepared by:

Vic Avila
Facilities Manager

Recommended by:

Diane Lewis
Acting Finance Director

Approved by:

Jesús Armas, City Manager

Attachments: Attachment A City of Richmond-Library Installation
Attachment B City of Vallejo: City Hall and Public Library Installation
Attachment C City of Hayward, Barnes Court Warehouse

DUE TO THE LENGTH OR COLOR OF THE REFERENCED EXHIBITS, THEY HAVE BEEN ATTACHED AS SEPARATE LINKS.

DRAFT

HAYWARD CITY COUNCIL

RESOLUTION NO._____

Introduced by Council Member_____

RESOLUTION AUTHORIZING THE INSTALLATION OF A SOLAR POWER ELECTRICAL GENERATING SYSTEM ATOP THE CITY'S BARNES COURT WAREHOUSE

WHEREAS, the City has the opportunity to install a solar power generating system atop the City's Barnes Court warehouse; and

WHEREAS, the system has the capacity to generate 276 kilowatts of clean energy for use by the City; and

WHEREAS, the generation of power will reduce the need to draw from the energy grid; and

WHEREAS, the City has the opportunity take advantage of the bidding procedure used by the Federal General Services Administration and obtain the same price as the Federal Government; and

WHEREAS, the vendor selected for this project has gone through the GSA bidding process and has been certified as a GSA approved vendor; and

WHEREAS, use of a GSA approved vendor satisfies both City, State and Federal bidding requirements; and

WHEREAS, the cost of the solar energy will be less than the cost of traditional energy and will help defray the cost of the improvements; and

WHEREAS, the City's cost for the project will be reduced to one half of the total cost by a $900,000 grant from PG&E's Self Generating incentive Program; and

WHEREAS, it is in the best interests of the City to authorize and direct solicitation of lease financing proposals to pay for its share of the project.

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Hayward as follows:

Section 1: Approval of Project and Award of Bid. The City Council finds that the installation of the above-discussed solar power generating system will be beneficial to the City in that the use of clean solar energy will reduce the City's use of traditional power. The Council also finds that the savings achieved from the reduction of traditional power use will provide a source of revenue to offset the costs of construction of the solar project. In addition, the Council finds that the use of a GSA approved vendor satisfies all Federal, State and City bidding requirements. Based upon these findings, the Council hereby approves the installation of a solar power generating system atop the City's Barns Court warehouse and authorizes the City Manager to negotiate and execute a contract with PowerLight Corporation in an amount not to exceed $1.8 million dollars. The form of such contract shall be approved by the City Attorney.

Section 2: Acceptance of Funds from PG&E. The City Council hereby approves the acceptance of funds in the amount of $900,000 from PG&E's Self Generation Incentive Program and authorizes the City Manager to take all steps and execute all documents necessary to acquire such funds. Any and all such funds received from PG&E are hereby appropriated for expenditure on the solar project.

Section 3: Lease/Purchase Agreement. The City Council hereby finds that it is in the best interests of the City to finance the project via a lease/purchase agreement over a period of twenty-five (25) years. The Council further finds that the sufficient cost savings produced by the project to pay for the financing costs. Therefore, the Council hereby directs and authorizes the City Manager to negotiate and execute any and all documents necessary to arrange for lease/purchase financing of the project.

Section 4: Agreement for Sale of Green Tags. The Council finds that the the production of clean renewable energy results in the issuance of clean energy credits known as "Green Tags". Green Tags have value and can be sold on the open market. The estimated value of the Green Tags for this project is approximately $93,000. The City Manager is hereby authorized and directed to negotiate and execute a contract with PowerLight Corporation for the purchase of the City's Green Tags for an amount not to be less than $93,000.

IN COUNCIL, HAYWARD, CALIFORNIA _____, 2005

ADOPTED BY THE FOLLOWING VOTE:

AYES: COUNCIL MEMBERS:
MAYOR:

NOES: COUNCIL MEMBERS:

ABSTAIN: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

ATTEST:_____
City Clerk of the City of Hayward

APPROVED AS TO FORM:

_____
City Attorney of the City of Hayward